

1 1. A process for manufacturing to a desired shape and
2 dimensions, a homogeneous shaped charge liner which
3 comprises:

4 selecting a free-flowing powder of agglomerated nodules
5 of a first metal and of a second metal having a higher
6 specific gravity and a higher melting point than said first
7 metal, wherein each of said nodules comprises an
8 agglutination of sub-nodules wherein each of said sub-
9 nodules include at least one particle of said first metal
10 and at least one particle of said second metal bonded
11 together;

12 pressing a volume of said powder into a compact;

13 sintering said compact at a temperature sufficient to
14 melt said first metal to form a sintered body; and

15 coining said sintered body into a composite body having
16 said desired shape and dimensions.

1 2. The process of Claim 1, wherein said step of pressing
2 comprises shaping said compact to a near net-shape of said
3 desired shape.

1 3. The process of Claim 1, wherein said pressing comprises
2 tap-molding said volume.

1 4. The process of Claim 1, wherein said pressing comprises
2 compacting said volume into a mold at room temperature.

1 5. The process of Claim 1, wherein said selecting comprises
2 selecting said second metal from a group consisting of
3 metals and alloys having a specific gravity of at least 10
4 grams/cm³.

1 6. The process of Claim 5, wherein said second metal is
2 selected from the group consisting of tungsten, molybdenum,
3 and alloys thereof.

1 7. The process of Claim 5, wherein said first metal is
2 selected from the group consisting of copper and alloys
3 thereof.

1 8. The process of Claim 1, wherein:

2 said selecting comprises selecting copper as said first
3 metal and tungsten as said second metal; and

4 said sintering comprises sintering at a temperature
5 between about 1090°C and 1230°C.

1 9. The process of Claim 1, wherein said step of selecting
2 comprises selecting a aggregate powder consisting of
3 particles of the first and second metals, breakably bonded
4 together into nodules and sub-nodules.

1 10. In the process of manufacturing a shaped charge liner
2 for use in perforating wells by pressing a volume of
3 powdered metal particles of different densities, an

4 improvement which comprises:

5 using a free-flowing powder of preclustered nodules of
6 said metal particles of different densities.

1 11. A process for fabricating a shaped charge liner for
2 perforating a well comprises:

3 selecting a free-flowing powder of pre-agglomerated
4 particles of different density metals; and

5 forming a volume of said powder into a shaped charge
6 liner.

1 12. The process of Claim 11, wherein said forming comprises
2 press-molding said volume into a compact.

1 13. The process of Claim 11, wherein said forming comprises
2 tap-molding said volume into a compact.